UT★ORTHO
A Part of UT Physicians

Dr. Walter Lowe

Knee Arthroscopy Lysis of Adhesions

Post-Operative Rehabilitation Protocol

Ironman Sports Medicine Institute

3rd Edition

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Tips for Successful Recovery

1. **Surgical pre-cautions**: Do not change bandages unless instructed by physician. Wear compression hoses on operative limb until crutches are discharged. If you suspect a DVT, contact Dr. Lowe's office immediately at **713-486-6540** or refer to ED immediately. If patient has reactive effusion that does not improve with rest, ice, and compression, contact Dr. Lowe's office.

2. Begin **stretching extension** ROM on day one. Achieve full extension ROM by week 1. If not achieved by end of week 2, notify the physician's office.

3. Address **quad activation** early and focus on isolation of quadriceps activation. Use surface emg, NMES, and cueing to isolate quadriceps. Be aware of co-contracting from hamstrings, and ensure proper form. Do not progress to standing activities if patient is unable to achieve isolated quad set in long seated position. Goal by week 2 is to achieve heel lift with a quad set.

   *__Dosing quad sets__: 10 minutes of 10 second squeeze/10 second rest, x5 times a day.

4. **Straight leg raises**: Ensure quadriceps is activated and is maintaining contraction throughout the SLR range to eliminate extensor lag. Aim for a calf tap and elimination of extensor lag by week 2. Calf tap: the calf taps/skims the table while the heel stays elevated as the leg descends to starting position.

5. Do not force **flexion ROM**, but encourage steady progression. Patellar mobility is imperative. Use gentle soft tissue techniques for areas such as anterior interval/fat pad, quadriceps, hamstrings, and scar management. If 90° of flexion is not achieved by end of week 1, notify physician's office.

Arthroscopic LOA and/or AIR (anterior interval release) requires aggressive encouragement of regaining ROM flexion and extension as quickly as possible. Time is crucial and it may be neccessary to see the patient daily until ROM is trending positively. A variety of techniques are advised in order to achieve ROM milestones. These include, but are not limited to:

- soft tissue, scar, and fat pad mobilizations
- patellar and patellar gutter mobilizations
- prolonged duration low load stretching: flexion and extension
- contract/relax techniques
- end range stretching
- joint mobilizations
- modalities
- intramuscular dry needling

Typically, a combination of the aforementioned techniques will have remarkable influence. Daily compliance and consistent repetition of ROM exercises is imperative for success. In addition, daily stationing biking is encouraged.

Patellar and patellar gutter motility is essential to regain flexion and extension ROM. These mobilizations need to be performed multiple times a day and must be included in HEP. Superior migration of the patella and hamstring flexibility directly effects extension and quad activation, while inferior patellar mobility and quad flexibility effects flexion motion. Normalizing patellofemoral joint mobility will improve tibiofemoral mobility.

If the patient is not progressing positively, please contact Dr. Lowe's office.

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Knee LOA Protocol

PHASE 1 - ACUTE (0-2 Weeks)

PHASE GOALS: REGAIN MOTION, RESTORE AMBULATION & ADL STATUS

RANGE OF MOTION

- 0-1 Week – Full extension and progress full flexion
- 1+ Weeks – Maintain full extension and gradually progress to full flexion
- Patellar mobs, scar/soft tissue mobs, calf/hamstring stretching, heel prop, prone hangs, heel slides, wall hangs

WEIGHT BEARING

- 0-2 Weeks – Weight bearing as tolerated
- 2+ Weeks – FWB with symmetrical gait

CRUTCH USE

- D/C crutches when gait is normal

STRENGTHENING

- Quad sets, straight leg raises 4 ways, hip abduction, SAQs, LAQs
- Gait training: emphasize TKE at heel strike and in stance phase, emphasize flexion throughout swing phase
- Static balance, mini squats, chair squats, step ups, hip machine, bridges, total gym
- Stationary biking: must be > 110° knee flexion

CRITERIA FOR FULL AMBULATION

- **≥ 0 DEG KNEE EXTENSION & 90 DEG KNEE FLEXION**
- **≥ 30 STRAIGHT LEG RAISES WITHOUT LAG**
- **MINIMAL EFFUSION, PAIN, & SYMMETRICAL GAIT WITHOUT A LIMP**
- **MD OR PT APPROVAL**

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Knee LOA Protocol

PHASE 2 – MOTION & STRENGTH (2+ Weeks)

PHASE GOALS: GAIN MOTION & IMPROVE STRENGTH

RANGE OF MOTION

- 2+ Weeks – Symmetrical & pain free with overpressure
- Patellar mobs, scar/soft tissue mobs, calf/hamstring stretching, heel prop, prone hangs, heel slides, wall hangs
- **Daily compliance with ROM exercises is required, do not progress heavy strengthening exercises until ROM is achieved**

STRENGTHENING

- SLRs 4 ways with weight or for time
- Leg press, step ups, step downs, RDLs, lunges, Bulgarian squats, wall sits
- Squat progression: bodyweight squats → single leg squats
- Advance hip abduction & glut strength: band walks, lateral lunge, reverse lunge
- Core exercises: planks, side planks, v-ups, Russian twist, superman
- Balance training: foam pad, balance board, BOSU

CONDITIONING

- Initiate dynamic warm-up: frankenstein kicks, leg swings, knee hugs, heel sweeps, heel/toe walks, oil rigs, lateral lunge, hip rotation, inch worm, speed squats
- Stationary bike, elliptical, & rowing machine
- Swimming: progress kicking gradually and pain-free

Once the patient has regained adequate ROM Flexion and Extension and has been **cleared by Dr. Lowe**, the patient may resume previous rehabilitation protocol. When rejoining the orginal protocol, please re-enter at the appropriate phase and ensure adequate strength for the required function of that phase.